

every data of the parallax image data string D3, thereby enabling substantially to improve the speed of processing and minimize the processing time.

Now, as another example of processing in the image 5 data processing unit 11 using the time spatial parameter TSP, there is a synthesizing processing, which will be described specifically in the following.

The holographic stereogram producing device 10 is also capable of performing a synthesizing processing 10 using, for example, a so-called chromakey processing, a background differential processing or the like with respect to the parallax image data string D3 based on the captured image data D1 and/or computer graphics image data D2 by means of the image processing computer 16 in 15 the image data processing unit 11.

At this instant, the holographic stereogram producing device 10 may select a plurality of different parallax image data strings D3 as an object of its synthesizing processing if the time spatial parameters 20 thereof are identical or matching. If the element hologram image obtained on the basis of the element hologram image data D5 subjected to the synthesizing processing is exposed and recorded on the hologram recording medium 4, there can be produced a holographic 25 stereogram in which a true image free from the distortion and blurring can be reproduced.

For example, if the captured image data D1 and/or the computer graphics image data D2 are motion images, and we assume that this motion image data is to be 30 synthesized with some 2-dimensional images such as character information, graphic information and the like

supplied as the another captured image data D1 and/or the another computer graphics image data D2 to the holographic stereogram producing device 10. The motion image data usually has timing information such as a rate  
5 and a reproducing period of time which differ depending on a difference in formats between NTSC (National Television System Committee) method, PAL (Phase Alternation by Line) method and the like. Therefore, in the case where the synthesizing processing directed to  
10 such motion image data is executed, setting of the parameters becomes easier if the timing parameter such as the image capture timing or the like is used in addition to the spatial parameter such as the image shooting distance and the like described above.

15 As a matter of course, the holographic stereogram-producing device 10 can perform the synthesizing processing, for example, to synthesize different 2-dimensional still image data as well. In this case, as the time spatial parameters requiring matching between  
20 the different parallax image data strings D3, the spatial parameter alone will suffice as described above. Further, the holographic stereogram-producing device 10 is also capable of executing the viewing point conversion processing described above concurrently with the  
25 synthesizing processing.

The holographic stereogram producing device 10, as supplied with plural different parallax image data strings D3 having the time spatial parameters which are identical therebetween, and upon processing these  
30 parallax image data strings D3 with the synthesizing processing by means of the image data processing unit 11,

generates the synthesized element hologram image data D5 and produces the synthesized holographic stereogram 51. Thereby, the holographic stereogram 51 thus produced can replay a reproduced image having a satisfactory quality 5 of display in which a plurality of different images are synthesized.

By way of example, this synthesizing processing may be executed also by the image capture device 1 and/or the graphic data generating computer 2. Namely, it may be 10 arranged such that the image capture device 1 and the graphic data generating computer 2, under control of respective controllers which are not shown, treat a plurality of parallax image data strings having identical (matching) time spatial parameters corresponding 15 therebetween as objects of synthesis, synthesize these parallax image data strings, then supply these synthesized image data as the captured image data D1 and the computer graphics image data D2 in association with these time spatial parameters to the image data 20 processing unit 11. In this case, because this parallax image data string D3 was processed with the synthesizing processing, the image data processing unit 11 performs the viewing point conversion processing for this parallax image data string D3 when required so as to form the 25 element hologram image data D5.

As described hereinabove, according to the holographic stereogram producing device 10 embodying the present invention, when producing the holographic stereogram on the basis of the parallax image string 30 obtained by the image capture device 1 and/or the parallax image string generated by the graphic image data